6BD11

Dual Triode—Sharp-Cutoff Pentode

Dual Triode Has High-Mu & Medium-Mu Units

DUODECAR TYPE

Electrical:

Heater Characteristics and Ratings:		
Voltage (AC or DC)	6.3 ± 0.6	volts
Current at 6.3 volts	1.050	amp
Maximum Heater Cathode Voltage:		
Heater negative with respect to cathode:		
Peak	200	volts
Heater positive with respect to cathode:		
Peak	200	volts
DC component	100	volts
Direct Interelectrode Capacitances: (Without external shield)		
Triode Unit No. 1		
Grid to plate	1.9	pf
Input: G_{T1} to (K_{T1}, K_{T2} + IS, K_p + $G3_p$ + IS, H)	3.0	pf
Output: P_{T1} to (K_{T1}, K_{T2} + IS, K_p + $G3_p$ + IS, H)	2.2	pf
Triode Unit No. 2		
Grid to plate	3.6	pf
Input: G_{T2} to (K_{T2} + IS, K_p + $G3_p$ + IS, H)	2.4	pf
Output: P_{T2} to (K_{T2} + IS, K_p + $G3_p$ + IS, H)	3.8	pf
Pentode Unit		
Grid No.1 to plate	0.13	pf
Input: $G1_p$ to (K_{T2} + IS, K_p + $G3_p$ + IS, $G2_p$, H)	11.0	pf
Output: P_p to (K_{T2} + IS, K_p + $G3_p$ + IS, $G2_p$, H)	4.6	pf
Pentode plate to plate of triode No. 2	0.045 max.	pf
Plate of triode No. 1 to plate of triode No. 2	0.075 max.	pf

Characteristics, Class A_1 Amplifier:

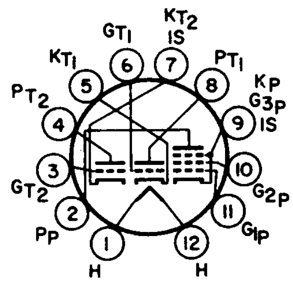
Triode Units	*No. 1*	*No. 2*	
Plate Supply Voltage	200	200	volts
Grid Voltage	-2	-	volts
Cathode Resistor	-	220	ohms
Amplification Factor	68	41	
Plate Resistance (Approx.)	12400	9400	ohms
Transconductance	5500	4400	μmhos
Plate Current	7	9.2	ma
Grid Voltage for plate μa = 100	-5.5	-6.5	volts

Pentode Unit			
Plate Supply Voltage	35	135	volts
Grid-No.2 Supply Voltage	135	135	volts
Grid-No.1 Voltage	0[a]	-	volts
Cathode Resistor	-	100	ohms
Plate Resistance (Approx.)	-	45000	ohms
Transconductance	-	10400	μmhos
Plate Current	34[b]	17	ma
Grid-No.2 Current	13[b]	4	ma
Grid-No.1 Voltage (Approx.) for plate μa = 100	-	-6	volts

Mechanical:

Operating Position	Any
Types of Cathodes	Coated Unipotential
Maximum Overall Length	2.375"
Seated Length	1.750" to 2.000"
Diameter	1.062" to 1.188"
Dimensional Outline (JEDEC 9-58)	See *General Section*
Bulb	T9
Base	Small-Button Duodecar 12-Pin (JEDEC No.E12-70)
Basing Designation for BOTTOM VIEW	12DP

Pin 1 - Heater
Pin 2 - Pentode Plate
Pin 3 - Grid of Triode Unit No.2
Pin 4 - Plate of Triode Unit No.2
Pin 5 - Cathode of Triode Unit No.1
Pin 6 - Grid of Triode Unit No.1
Pin 7 - Cathode of Triode Unit No.2, Internal Shield
Pin 8 - Plate of Triode Unit No.1
Pin 9 - Pentode Cathode, Pentode Grid No.3, Internal Shield
Pin 10 - Pentode Grid No.2
Pin 11 - Pentode Grid No.1
Pin 12 - Heater



AMPLIFIER — Class A1

Maximum Ratings, *Design-Maximum Values:*

	Triode Units No.1	*No.2*	
Plate Voltage	330	330	volts
Grid (Control-Grid) Voltage:			
Positive-bias value	0	0	volts
Plate Dissipation	1.5	2	watts

Pentode Unit

Plate Voltage	330	volts
Grid-No.2 (Screen-Grid) Supply Voltage	330	volts
Grid-No.2 Voltage	See *Grid-No.2 Input Rating Chart* at front of Receiving Tube Section	
Grid-No.1 (Control-Grid) Voltage:		
Positive-bias value	0	volts
Grid-No.2 Input:		
For grid-No.2 voltages up to 165 volts	1.1	watts
For grid-No.2 voltages between 165 and 330 volts	See *Grid-No.2 Input Rating Chart* at front of Receiving Tube Section	
Plate Dissipation	4	watts

Maximum Circuit Values: *(Values are for Each Unit)*

	Triode Units	*Pentode Unit*
Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.5	1 megohm
For cathode-bias operation	1	1 megohm

[a] Applied for short interval (2 sec. max.) so as not to damage tube.
[b] Value measured by recurrent waveform such that maximum ratings of tube are not exceeded.